



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No.: VA0066630  
Effective Date: September 30, 2008  
Modification Date: April 16, 2012  
Expiration Date: September 29, 2013

### AUTHORIZATION TO DISCHARGE UNDER THE VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM

AND


### THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, Part I - Effluent Limitations and Monitoring Requirements, and Part II - Conditions Applicable To All VPDES Permits, as set forth herein.

Owner: Hopewell, City of  
Facility Name: Hopewell Regional Wastewater Treatment Facility  
City: Hopewell  
County: N/A  
Facility Location: 231 Hummel-Ross Road, Hopewell, VA

The owner is authorized to discharge to the following receiving stream:

Stream: Gravelly Run  
River Basin: James River (Lower)  
River Subbasin: N/A  
Section: 1  
Class: II  
Special Standards: bb

  
Deputy Regional Director, Piedmont Regional Office

16 April 2012  
Date

## A. INTERIM LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning with the permit's effective date and lasting until the issuance of a Certificate to Operate for the **16.5 MGD Hopewell Domestic Preliminary Treatment Facility** or until the permit's expiration date, whichever occurs first, the permittee is authorized to discharge from **Outfall 001 (Hopewell Regional Wastewater Treatment Facility)**.

a. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITS					MONITORING REQUIREMENTS		
		MONTHLY AVERAGE		WEEKLY AVERAGE		MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
		mg/L	kg/d	mg/L	kg/d	mg/L	mg/L		
001 Flow (MGD) <sup>(1)</sup>		NL		NA		NA	NL	Continuous	TIRE
002 pH (standard units)		NA		NA		6.0	9.0	1/Day	Grab
004 Total Suspended Solids (TSS)		81	9600 <sup>(2)</sup>	110 <sup>(2)</sup>	13000 <sup>(2)</sup>	NA	NA	1/Month	24 HC
007 Dissolved Oxygen <sup>(3)</sup> (Interim)		NA	NA	NA		4.8 mg/L	NA	1/Day	Grab
859,860,863-865 Dissolved Oxygen <sup>(3)</sup> (Final)	February – May	5.5	NA	6.0	NA	5.0	NA	1/Day	Grab
	June – January			4.8	NA	4.8			
012 Total Phosphorus (as P)		2.0	240 <sup>(2)</sup>	NA		NA	NA	3/Week	24 HC
039 Ammonia (as N)		18.9	2510 <sup>(4)</sup>	NA		NA	30.9	3/Week	24 HC
159 CBOD <sub>5</sub>		37	4400 <sup>(2)</sup>	53	6300 <sup>(2)</sup>	NA	NA	3/Week	24 HC
379 Toxicity, Acute (TU-A)[ <i>C.dubia</i> ] <sup>(3)(5)</sup> (Interim)		NA		NA		NA	2.46	1/Quarter	24 HC
379 Toxicity, Acute (TU-A) [ <i>P.promelas</i> ] <sup>(3)(5)</sup> (Interim)		NA		NA		NA	2.46	1/Quarter	24 HC
379 Toxicity, Acute (TU-A) [ <i>C.dubia</i> ] <sup>(3)(5)</sup> (Final)		NA		NA		NA	1.49	1/Quarter	24 HC
379 Toxicity, Acute (TU-A) [ <i>P.promelas</i> ] <sup>(3)(5)</sup> (Final)		NA		NA		NA	1.49	1/Quarter	24 HC

NL = No Limitation, monitoring only      NA = Not Applicable      TIRE = Totalizing Indicating and Recording Equipment      24HC = 24-Hour Composite

## Notes:

- (1) The design flow of this treatment facility is 50.0 MGD. Discharge loadings for TSS, Total Phosphorus, and CBOD<sub>5</sub> are based on a flow of 31.48 MGD. See Part I.C.1 for additional flow requirements.
- (2) Limit is expressed in two significant figures.
- (3) See Part I.F for Schedule of Compliance.
- (4) Limit is expressed in three significant figures. Discharge loading for ammonia is based on a flow of 35.12 MGD (see Attachment K).
- (5) See Part I.E. for monitoring requirements for Whole Effluent Toxicity.

- b. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- c. This facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN040083, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia.

## A. INTERIM LIMITATIONS AND MONITORING REQUIREMENTS (Cont)

2. During the period beginning with the permit's effective date and lasting until the issuance of a Certificate to Operate for the **16.5 MGD Hopewell Domestic Preliminary Treatment Facility** or until the permit's expiration date, whichever occurs first, the permittee is authorized to discharge from **Outfall 101 (Hopewell Domestic Preliminary Treatment Facility)**.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITS				MONITORING REQUIREMENTS	
	MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
	mg/L	mg/L	mg/L	mg/L		
001 Flow (MGD) <sup>(1)</sup>	NL	NA	NA	NL	Continuous	TIRE
120 <i>E. coli</i>	126 N/100 mL geometric mean	NA	NA	NL	2/Month	Grab (10am-4pm)
Total Residual Chlorine (TRC) <sup>(3)</sup>	NA	NA	NL	NA	4/Day at 2 Hr intervals	Grab
631 Oxidation Reduction Potential (ORP)(mV) <sup>(4)</sup>	NA	NA	500	NA	Continuous	TIRE

NL = No Limitation, monitoring only

NA = Not Applicable

TIRE = Totalizing Indicating and Recording Equipment

Notes:

- (1) The design flow of the primary treatment facility is 6.68 MGD.
- (2) 2//Month means two samples taken during the calendar month, no less than seven days apart.
- (3) See Part I.B.1 for additional TRC limitations, monitoring, and reporting requirements.
- (4) The Oxidation Reduction Potential (ORP) is used to demonstrate adequate disinfection of the Primary Treatment Facility effluent. The ORP shall be maintained at a level greater than or equal to 500 millivolts except as follows:
  - (a) The total time the ORP is less than 500 mV shall not exceed 7 hours 26 minutes in any calendar month.
  - (b) No single excursion below 500 mV shall exceed 60 minutes.

## A. INTERIM LIMITATIONS AND MONITORING REQUIREMENTS (Cont)

3. During the period beginning with the permit's effective date and lasting until the issuance of a Certificate to Operate for the **16.5 MGD Hopewell Domestic Preliminary Treatment Facility** or until the permit's expiration date, whichever occurs first, the permittee is authorized to discharge from Outfall **102 (Hopewell Regional Wastewater Treatment Facility)**, the combined HRWTF sanitary, centrate and leachate disinfection system.

a. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITS				MONITORING REQUIREMENTS	
	MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
	mg/L	mg/L	mg/L	mg/L		
001 Flow (MGD) <sup>(1)</sup>	NL	NA	NA	NL	Continuous	TIRE
120 <i>E. coli</i> <sup>(2)</sup>	NL	NA	NA	235 N/100 mL	1/Month	Grab (10am-4pm)
157 Total Residual Chlorine (TRC) <sup>(3)</sup>	NA	NA	NL	NA	3/Day @ 4 Hr. Intervals	Grab

NL = No Limitation, monitoring only

NA = Not Applicable TIRE = Totalizing Indicating and Recording Equipment

Notes:

(1) The design flow of the disinfection system is 0.72 MGD.

(2) See Part I.B.1 for additional TRC limitations, monitoring, and reporting requirements.

- b. Such discharge shall be eliminated upon construction of the **16.5 MGD Hopewell Domestic Preliminary Treatment Facility** and issuance of a Certificate to Operate.

## A. FINAL LIMITATIONS AND MONITORING REQUIREMENTS

4. Upon issuance of a Certificate to Operate for the **16.5 MGD Hopewell Domestic Preliminary Treatment Facility** and until the permit's expiration date, the following effluent limitations and design flow shall become effective at Outfall 001 (**Hopewell Regional Wastewater Treatment Facility**) and remain in effect until the permit's expiration date.

a. Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITS					MONITORING REQUIREMENTS		
		MONTHLY AVERAGE		WEEKLY AVERAGE		MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
		mg/L	kg/d	mg/L	kg/d	mg/L	mg/L		
001 Flow (MGD) <sup>(1)</sup>		NL		NA		NA	NL	Continuous	TIRE
002 pH (standard units)		NA		NA		6.0	9.0	1/Day	Grab
004 Total Suspended Solids (TSS)		76	11000 <sup>(2)</sup>	110 <sup>(2)</sup>	15000 <sup>(2)</sup>	NA	NA	1/Month	24 HC
005 Total Residual Chlorine (TRC)		NL	NA	NL	NA	NA	NA	1/Month	Grab
007 Dissolved Oxygen <sup>(3)</sup> (Interim)		NA	NA	NA		4.8 mg/L	NA	1/Day	Grab
859,860,863-865 Dissolved Oxygen <sup>(3)</sup> (Final)	February – May	5.5	NA	6.0	NA	5.0	NA	1/Day	Grab
	June – January			4.8	NA	4.8			
012 Total Phosphorus (as P)		2.0	240 <sup>(2)</sup>	NA		NA	NA	3/Week	24 HC
039 Ammonia (as N)		18.9	2510 <sup>(4)</sup>	NA		NA	30.9	3/Week	24 HC
159 CBOD <sub>5</sub>		37	5200 <sup>(2)</sup>	54	7500 <sup>(2)</sup>	NA	NA	3/Week	24 HC
379 Toxicity, Acute (TU-A)[ <i>C.dubia</i> ] <sup>(3)(5)</sup> (Interim)		NA		NA		NA	2.46	1/Quarter	24 HC
379 Toxicity, Acute (TU-A) [ <i>P.promelas</i> ] <sup>(3)(5)</sup> (Interim)		NA		NA		NA	2.46	1/Quarter	24 HC
379 Toxicity, Acute (TU-A) [ <i>C.dubia</i> ] <sup>(3)(5)</sup> (Final)		NA		NA		NA	1.49	1/Quarter	24 HC
379 Toxicity, Acute (TU-A) [ <i>P.promelas</i> ] <sup>(3)(5)</sup> (Final)		NA		NA		NA	1.49	1/Quarter	24 HC

NL = No Limitation, monitoring only      NA = Not Applicable      TIRE = Totalizing Indicating and Recording Equipment      24HC = 24-Hour Composite

Notes: (1) The design flow of this treatment facility is 50.0 MGD. Discharge loadings for TSS and CBOD<sub>5</sub> are based on the design flow of the Hopewell Domestic Preliminary Treatment Facility of 16.5 MGD, the average flow for Rock-Tenn CP LLC (formerly Smurfit-Stone) of 12.4 MGD, the average flow for Honeywell-Hopewell of 6.3 MGD, and the average flow for Hercules Hopewell of 2.0 MGD. Total Phosphorus discharge loadings for Total Phosphorus are based on a design flow of 31.48 MGD. See Part I.C.1 for additional flow requirements.

(2) Limit is expressed in two significant figures.

(3) See Part I.F for Schedule of Compliance.

(4) Limit is expressed in three significant figures. Discharge loading for ammonia is based on a flow of 35.12 MGD (see Attachment K of 2008 permit reissuance).

(5) See Part I.E. for monitoring requirements for Whole Effluent Toxicity.

b. There shall be no discharge of floating solids or visible foam in other than trace amounts.

c. This facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN040083, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia.

## A. FINAL LIMITATIONS AND MONITORING REQUIREMENTS (Cont)

5. Upon issuance of a Certificate to Operate for the **16.5 MGD Hopewell Domestic Preliminary Treatment Facility** and until the permit's expiration date, the following effluent limitations and design flow shall become effective at **Outfall 101 (Hopewell Domestic Preliminary Treatment Facility)** and remain in effect until the permit's expiration date. .

a. Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITS				MONITORING REQUIREMENTS	
	MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
	mg/L	mg/L	mg/L	mg/L		
001 Flow (MGD) <sup>(1)</sup>	NL	NA	NA	NL	Continuous	TIRE
120 <i>E. coli</i>	126 N/100 mL geometric mean	NA	NA	NL	4/Month	Grab (10am-4pm)
157, 213 Total Residual Chlorine (TRC) <sup>(3)</sup>	NA	NA	NL	NA	1 per 2 Hrs	Grab

NL = No Limitation, monitoring only

NA = Not Applicable

TIRE = Totalizing Indicating and Recording Equipment

Notes:

- (1) The design flow of the Domestic Preliminary Treatment Facility is 16.5 MGD.
- (2) 4//Month means samples collected between 10 a.m. and 4 p.m. during four separate weeks of each calendar month.
- (3) See Part I.B.2 for additional TRC limitations, monitoring, and reporting requirements.

B. ADDITIONAL CHLORINE LIMITATIONS AND MONITORING REQUIREMENTS

1. Beginning with the permit's effective date and continuing until the issuance of a Certificate to Operate for the **16.5 MGD Hopewell Domestic Preliminary Treatment Facility**, or until the permit's expiration date, whichever comes first,
  - a. The permittee shall monitor the Total Residual Chlorine (TRC): (i) in the Hopewell Primary Treatment Plant effluent (Outfall 101) four times per day at two hour intervals by grab sample and (ii) at the end of the Outfall 102 Chlorine contact tank three times per day at four hour intervals by grab sample.
  - b. No more than **36** of all samples taken at Outfall 101 (Primary Plant effluent) shall be less than **1.0 mg/l** for any one calendar month (DMR parameter 157). No more than **9** of all samples taken at the outlet of the Outfall 102 chlorine contact tank shall be less than **1.0 mg/l** for any one calendar month (DMR parameter 157).
  - c. No TRC sample collected at Outfall 101 (Primary Plant effluent) or at each outlet of the Outfall 102 chlorine contact tank shall be less than **0.60 mg/l** (DMR parameter 213).
  - d. If dechlorination facilities exist, the samples above shall be collected prior to dechlorination.
  - e. If chlorine disinfection is not used at Outfall 101 or 102, then *E.coli* shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
MONTHLY AVERAGE		FREQUENCY	SAMPLE TYPE
<i>E. coli</i>	126 n/100 ml geometric mean	3/ week at 48 hour intervals	Grab (10am to 4pm)

The above *E. coli* requirement, if applicable, shall substitute for the *E. coli* and TRC requirements delineated elsewhere in Part I.A.1 to Part I.A.3 of this permit.

2. Upon issuance of a Certificate to Operate for the **16.5 MGD Hopewell Domestic Preliminary Treatment Facility**, and until the permit's expiration date,
  - a. The permittee shall monitor the Total Residual Chlorine (TRC) in the Hopewell Domestic Preliminary Treatment Facility effluent (Outfall 101) once every two hour interval by grab sample.
  - b. No more than **36** of all samples taken at Outfall 101 (Hopewell Domestic Preliminary Treatment Facility effluent) shall be less than **1.0 mg/l** for any one calendar month (DMR parameter 157).
  - c. No TRC sample collected at Outfall 101 (Hopewell Domestic Preliminary Treatment Facility effluent) shall be less than **0.60 mg/l** (DMR parameter 213).
  - d. If dechlorination facilities exist, the samples above shall be collected prior to dechlorination.
  - e. If chlorine disinfection is not used at Outfall 101, then *E.coli* shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
MONTHLY AVERAGE		FREQUENCY	SAMPLE TYPE
<i>E. coli</i>	126 n/100 ml geometric mean	1 per day	Grab (10am to 4pm)

The above *E. coli* requirement, if applicable, shall substitute for the *E. coli* and TRC requirements delineated elsewhere in Part I.A.4 and Part I.A.5 of this permit.

### C. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1. 95% Capacity Reopener

A written notice and plan of action for ensuring continued compliance with the terms of this permit shall be submitted to the Department of Environmental Quality's (DEQ) Piedmont Regional Office at 4949-A Cox Road, Glen Allen VA 23060, when the monthly average flow influent to the domestic sewage treatment operation reaches 95 percent of the design capacity authorized in this permit for each month of any three consecutive month period. **The written notice shall be submitted within 30 days and the plan of action shall be received at the Piedmont Regional Office no later than 90 days from the third consecutive month for which the flow reached 95 percent of the design capacity.** The plan shall include the necessary steps and a prompt schedule of implementation for controlling any current or reasonably anticipated problem resulting from high influent flows. Failure to submit an adequate plan in a timely manner shall be deemed a violation of the permit.

2. Indirect Dischargers

The permittee shall provide adequate notice to the DEQ of the following:

- a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Section 301 or 306 of the Clean Water Act and the State Water Control Law if it were directly discharging those pollutants; and
- b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of this permit.

Adequate notice shall include information on (i) the quality and quantity of effluent introduced into the treatment works, and (ii) any anticipated impact of the change on the quality or quantity of effluent to be discharged from the treatment works.

3. CTC, CTO Requirement

- a. The permittee shall, in accordance with the DEQ Sewage Collection and Treatment Regulation (9VAC 25-790), obtain a Certificate to Construct (CTC), and a Certificate to Operate (CTO) from the DEQ prior to constructing wastewater treatment works and operating the treatment works, respectively. Non-compliance with the CTC or CTO shall be deemed a violation of the permit.
- b. Upon issuance of a CTC, DEQ staff shall initiate modification, or alternately, revocation and reissuance, of this permit, to include annual concentration limits based on the nutrient removal technology listed in the CTC. Upon issuance of a CTO, any nutrient removal facilities installed shall be operated to achieve design effluent levels.

4. Operation and Maintenance Manual Requirement

The permittee shall review the existing Operations and Maintenance (O&M) Manual and notify the DEQ-PRO in writing, **within 1 year of the effective date of this permit reissuance**, whether it is still accurate and complete. If the O&M Manual is no longer accurate and complete, a revised O&M Manual shall be submitted for approval to the DEQ-PRO **within 1 year of the effective date of this permit reissuance**. The permittee will maintain an accurate, approved O&M Manual for the treatment works. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

- a. Techniques to be employed in the collection, preservation and analysis of effluent samples (and sludge samples if sludge analyses are required);
- b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
- c. Discussion of Best Management Practices, if applicable;
- d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants



characterized in Part I.C.7 below that will prevent these materials from reaching State waters;

- e. Treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory, and record keeping; and
- f. A plan for the management and/or disposal of waste solids and residues.

Any changes in the practices and procedures followed by the permittee **shall be documented and submitted for staff approval within 90 days of the effective date of the changes.**

Upon approval of the submitted manual changes, the revised manual becomes an enforceable part of the permit. Noncompliance with the O&M Manual shall be deemed a violation of the permit.

5. Licensed Operator Requirement

The permittee shall employ or contract at least one Class I licensed wastewater works operator for this facility. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and the regulations of the Board for Waterworks and Wastewater Works Operators. The permittee shall notify the DEQ in writing whenever he is not complying, or has grounds for anticipating he will not comply with this requirement. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

6. Reliability Class

The permitted treatment works shall meet Reliability Class I.

7. Materials Handling/Storage

Any and all product, materials, industrial wastes, and/or other wastes resulting from the purchase, sale, mining, extraction, transport, preparation, and/or storage of raw or intermediate materials, final product, by-product or wastes, shall be handled, disposed of, and/or stored in such a manner so as not to permit a discharge of such product, materials, industrial wastes, and/or other wastes to State waters, except as expressly authorized.

8. Sludge Reopener

The DEQ may promptly modify or revoke and reissue this permit if any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

9. Sludge Use and Disposal

The permittee shall conduct all sewage sludge use or disposal activities in accordance with the Sludge Management Plan (SMP) approved with the reissuance of this permit. Any proposed changes in sewage sludge use or disposal practices or procedures followed by the permittee **shall be documented and submitted for DEQ approval 90 days prior to the effective date of the changes.** Upon approval, the revised SMP becomes an enforceable part of the permit. The permit may be modified or alternatively revoked and reissued to incorporate limits or conditions necessitated by substantive changes in sewage sludge use or disposal practices.

10. Compliance Reporting

- a. Maximum quantification levels (QL) shall be as follows:

<u>Effluent Characteristic</u>	<u>Quantification Level</u>
TSS	1.0 mg/L
Chlorine	0.10 mg/L
CBOD <sub>5</sub>	5 mg/L
Ammonia-N	0.20 mg/L

b. Reporting

**Monthly Average** -- Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in a. above shall be determined as follows: All concentration data below the QL listed in a. above shall be treated as zero. All concentration data equal to or above the QL listed in a. above shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the calculated concentration is <QL, then report "<QL" for the quantity. Otherwise use the concentration data and flow data for each sample day to determine the daily quantity and report the average of the calculated daily quantities.

**Weekly Average** -- Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in a. above shall be determined as follows: All concentration data below the QL listed in a. above shall be treated as zero. All concentration data equal to or above the QL listed in a. above shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the calculated concentration is <QL, then report "<QL" for the quantity. Otherwise use the concentration data and flow data for each sample day to determine the daily quantity and report the average of the calculated daily quantities.

c. Any single datum required shall be reported as "<QL" if it is less than the QL listed in section a. above. Otherwise the numerical value shall be reported.

d. **Significant Digits** -- The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used (i.e., 5 always rounding up or to the nearest even number) by the permittee, the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

11. Reopeners

This permit may be modified or, alternatively, revoked and reissued:

- a. If any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements;
- b. To incorporate technology-based effluent concentration limitations for nutrients in conjunction with the installation of nutrient control technology, whether by new construction, expansion or upgrade; or
- c. To incorporate alternative nutrient limitations and/or monitoring requirements, should:
  - 1) the State Water Control Board adopt new nutrient standards for the water body receiving the discharge, including the Chesapeake Bay or its tributaries, or
  - 2) a future water quality regulation or statute require new or alternative nutrient control.

12. General Permit Controls

Upon the effective date of the permittee's Watershed General Permit Total Phosphorus limitation, the monthly average Total Phosphorus loading limitation contained herein is waived. The permit may receive annual average concentration limits to reflect technology installed by the permittee for the control of nitrogen and phosphorus, whether by new construction, expansion, or upgrade.

13. Effluent Monitoring Frequencies

If the facility permitted herein is issued a Notice of Violation for any of the parameters listed below or loses its Virginia Environmental Excellence Program E3 or E4 status, then the following effluent monitoring frequencies shall become effective upon written notice from DEQ and remain in effect until permit expiration.

Parameter	Monitoring Frequency	Sample Type
CBOD <sub>5</sub>	1/Day	24HC
Ammonia-N	1/Day	24HC

No other effluent limitations or monitoring requirements are affected by this special condition.

14. Instream Monitoring Program

The permittee shall submit to DEQ no later than 90 days from the effective date of this permit an approvable, instream ambient monitoring program and Quality Assurance and Quality Control (QA/QC) plan. The monitoring program and QA/QC plan shall outline the sample collection, laboratory, analytical procedures and protocols (including maximum quantification levels), and chain of custody to be used to characterize ambient surface water quality conditions in the James River, Bailey Bay and Bailey Creek in the vicinity of the discharge. This monitoring program and plan must take into consideration the findings of the HERMA study and the effluent discharge at the Honeywell-Hopewell industrial facility (VA0005291). Once approved, the program and plan shall become an enforceable part of this permit. If the results of this monitoring indicate actual or potential water quality standard violations, the permit may be modified, or alternatively, revoked and reissued, in order to incorporate more stringent permit requirements. The monitoring program and QA/QC plan shall include, but not necessarily be limited to, the following items, as appropriate:

a. Sampling Stations

- 1) Sample stations shall be located to characterize ambient surface water quality conditions in the James River, Bailey Bay and Bailey Creek at various effluent dilution ratios within the 1:200 isopleth (to include Bailey Creek) identified in the 1994 HRWTF/Allied-Signal Mixing Zone Study, including HERMA stations BC-1, BC-2, BC-3 and H-5. These stations must include areas both upstream and downstream of the combined discharges.
- 2) The latitude and longitude of the sampling stations must be provided.

b. Sampling Frequency

- 1) For the first monitoring year: A minimum of one grab sample shall occur at each identified sampling station a minimum of twice per month, no less than seven days apart, for 12 consecutive calendar months.
- 2) For the remainder of the permit term: A minimum of one grab sample shall occur at each identified sampling station a minimum of once per calendar month from March 1 to October 31 each year following the first full monitoring year for the remainder of this permit term.
- 3) The number of samples taken per station per month must be consistent throughout each annual monitoring period (e.g. if five samples are taken at Station 1 in December, five samples must be taken at Station 1 in July).

c. Sample Collection

- 1) All samples shall be collected between the hours of 3pm and 5pm during the months of February to October and between the hours of 2pm and 5pm during the months of November to January
- 2) Samples shall be collected at a depth of 0.3 meters or at the midpoint between the water surface and bottom if water depth is less than 0.6 m, regardless of tide.
- 3) Sample collection and analysis shall be conducted in accordance with EPA approved methods.

d. Sample Parameters

- 1) For the first monitoring year: Each sample shall be analyzed for the following parameters: pH, chlorophyll a, temperature, ammonia (NH<sub>3</sub> as N), dissolved oxygen, specific conductance, secchi depth, total phosphorus, TKN, nitrates+ nitrites, water depth.
- 2) For the remainder of the permit term: Each sample shall be analyzed for the following parameters: pH, temperature, ammonia (NH<sub>3</sub> as N), dissolved oxygen, specific conductance, and water depth each year following the first full monitoring year for the remainder of this permit term.
- 3) A multi-probe device, such as a YSI or Hydrolab, must be used to analyze temperature, DO, pH, and specific conductance. The equipment must undergo calibration and post-calibration each day of use; for pH calibration, pH 7 SU and pH 10 SU buffer solutions must be used.

e. Implementation Schedule

- 1) The monitoring plan shall include an implementation schedule to commence monitoring no less than 90 days following plan approval.
- 2) The implementation schedule shall include identified dates that ambient sampling will occur. Changes to the sampling schedule may occur only upon advance notification to, and approval by DEQ. Requests for sampling schedule changes shall be accompanied by written documentation explaining the need and rationale for the requested change(s).
- 3) An inclement weather plan may be included in the monitoring plan in order to address hazardous conditions that have the potential to affect the sampling schedule.

f. Reporting Schedule

- 1) All data shall be submitted to DEQ – Piedmont Regional Office semi-annually, by no later than August 10 (for the period January 1 – June 30) and February 10<sup>th</sup> (for the period July 1 – December 31) of each reporting year.
- 2) For the first monitoring year: A final report, including the first year's data and summary of findings shall be submitted to DEQ- Piedmont Regional Office no later than May 1, 2010.
- 3) For the remainder of the permit term: A final report, including all data and summary of findings shall be submitted to DEQ-Piedmont Regional Office no later than September 1, 2013.

D. PRETREATMENT PROGRAM

1. The permittee's pretreatment program has been approved. The program is an enforceable part of this permit. The permittee shall:
  - a. Implement a pretreatment program that complies with the Clean Water Act, Water Control Law, State regulations and the approved program.
  - b. Submit to the DEQ Regional Office an annual report that describes the permittee's program activities over the previous year. The annual report shall be submitted **no later than January 31** of each year and shall include:
    - 1) An updated list of the Significant Industrial Users\* showing the categorical standards and local limits applicable to each. The list shall show which individual industrial users are subject to local limits that are more stringent than Categorical Pretreatment Standards and which industries are only subject to local limits.
    - 2) A summary of the compliance status of each Significant Industrial User with pretreatment standards and permit requirements.
    - 3) A summary of the number and types of Significant Industrial User sampling and inspections performed by the POTW.

- 4) All information concerning any interference, upset, VPDES permit or Water Quality Standards violations directly attributable to Significant Industrial Users and enforcement actions taken to alleviate said events.
  - 5) A description of all enforcement actions taken against Significant Industrial Users over the previous 12 months.
  - 6) A summary of any changes to the submitted pretreatment program that have not been previously reported to the DEQ Regional Office.
  - 7) A summary of the permits issued to Significant Industrial Users since the last annual report.
  - 8) POTW and self-monitoring results for Significant Industrial Users determined to be in significant non-compliance during the reporting period.
  - 9) Results of the POTW's influent/effluent/sludge sampling, not previously submitted to DEQ.
  - 10) Copies of newspaper publications of all Significant Industrial Users in significant non-compliance during the reporting period. This is **due no later than March 31 of each year.**
  - 11) Signature of an authorized representative.
- c. Submit any changes to the approved pretreatment program to the DEQ Regional Office and obtain approval of substantive changes, per 40 CFR 403.18, before implementation of the changes.
- d. Ensure all Significant Industrial Users' permits are issued and reissued in a timely manner and that the Significant Industrial User permits issued by the POTW are effective and enforceable.
- e. Inspect and sample all Significant Industrial Users at a minimum of once a year.
- 1) Sampling shall include all regulated parameters, and shall be representative of the wastewater discharged.
  - 2) Inspection of the Significant Industrial Users shall cover all areas which could result in wastewater discharge to the treatment works including manufacturing, chemical storage, pretreatment facilities, spill prevention and control procedures, hazardous waste generation and Significant Industrial User's self-monitoring and records.
  - 3) If an industry claims a no discharge status, a clause shall be incorporated into the industrial user's permit to ensure proper notification to the Control Authority in the event of an episodic or unforeseen discharge. This notification shall allow sampling to occur if the industrial user does discharge to the Control Authority. Additionally, certification of the no discharge status shall be submitted to the Control Authority; this certification may satisfy the sampling requirements of Part I.D.1.e(1) above. Documentation to support the disposition of waste or wastewater shall be available to the Control Authority or Approval Authority upon request or during inspections. The status of the no discharge industries shall be reported with the supporting information in Control Authority's annual report (Part I.D.1.b).
- f. Implement the reporting requirements of Part VII of the VPDES Permit Regulation.
- g. Review the Enforcement Response Plan (ERP) and ensure it meets state and federal regulatory requirements. The approved ERP is an enforceable part of this permit and shall be implemented.
- h. Develop local limits or reevaluate local limits using current influent, effluent and sludge monitoring data and submit the data and results of the evaluation to the DEQ Regional Office within one year of the effective date of this permit reissuance. Representative samples shall be collected and analyzed from all Significant Industrial Users.

- i. Ensure that adequate resources are available to implement the approved program.
  - j. Meet all public participation requirements and annually public notice Significant Industrial Users in significant non-compliance with pretreatment standards and requirements for the previous 12 months.
  - k. **Within 180 days of the effective date of this permit reissuance**, reevaluate the adequacy of the current procedure for the ongoing survey of the Significant Industrial Users discharging non-domestic wastewater to the POTW. If there is a need for a procedure modification, submit the procedure modification to DEQ for approval prior to implementation.
2. The DEQ may require the POTW to institute changes to its pretreatment program:
- a. If the approved program is not implemented in a way satisfying the requirements of the Clean Water Act, Water Control Law or State regulations;
  - b. If problems such as pass-through, interference, water quality standards violations or
  - c. sludge contamination develop or continue; and
  - d. If federal, state or local requirements change.

\*A significant industrial user is one that:

- 1. Has a process wastewater (\*\*) flow of 25,000 gallons or more per average workday;
- 2. Contributes a process waste stream which makes up 5-percent or more of the average dry weather hydraulic or organic capacity of the POTW;
- 3. Is subject to the categorical pretreatment standards; or
- 4. Has significant impact, either singularly or in combination with other Significant Dischargers, on the treatment works or the quality of its effluent.

**\*\*Excludes sanitary, non-contact cooling water and boiler blowdown.**

E. WHOLE EFFLUENT TOXICITY (WET) LIMITATION AND MONITORING REQUIREMENTS

1. The Whole Effluent Toxicity limitation of 1.49 TU<sub>a</sub> (LC<sub>50</sub>=67%) in Part I.A. is effective within 4 years of the effective date of the permit as described in the Schedule of Compliance in Part F. Until the 1.49 TU<sub>a</sub> limit becomes effective, the limit shall be 2.46 TU<sub>a</sub>.
2. Commencing within three (3) months of the effective date of the limit, the permittee shall conduct quarterly acute toxicity tests using 24-hour flow-proportioned composite samples of final effluent from Outfall 001 in accordance with the schedule in Part I.E.4. The acute tests to use are:

48 Hour Static Acute test using *Ceriodaphnia dubia*

48-Hour Static Acute test using *Pimephales promelas*

These acute tests shall be performed with a minimum of 5 dilutions, derived geometrically, for calculation of a valid LC<sub>50</sub> and corresponding acute Toxic Units (TU<sub>a</sub>). Express as TU<sub>a</sub> (Acute Toxic Units) by dividing 100/LC<sub>50</sub> for DMR reporting. Two copies of the toxicity test results shall be submitted with the DMR. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3

3. The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limits must control the toxicity of the effluent.
4. Reporting Schedule:

Period	Compliance Periods	Required Test	DMR/Report Due Date
1 <sup>st</sup> Quarter	Oct-Dec 2008	48-hour Static Acute test using <i>Pimephales promelas</i>	10 <sup>th</sup> of the month immediately following each compliance period.
2 <sup>nd</sup> Quarter	Jan-Mar 2009		
3 <sup>rd</sup> Quarter	Apr-Jun 2009		
4 <sup>th</sup> Quarter	Jul-Sep 2009		
5 <sup>th</sup> Quarter	Oct-Dec 2009		
6 <sup>th</sup> Quarter	Jan-Mar 2010		
7 <sup>th</sup> Quarter	Apr-Jun 2010		
8 <sup>th</sup> Quarter	Jul-Sep 2010		
9 <sup>th</sup> Quarter	Oct-Dec 2010	48-Hour Static Acute test with <i>Ceriodaphnia dubia</i>	
10 <sup>th</sup> Quarter	Jan-Mar 2011		
11 <sup>th</sup> Quarter	Apr-Jun 2011		
12 <sup>th</sup> Quarter	Jul-Sep 2011		
13 <sup>th</sup> Quarter	Oct-Dec 2011		
14 <sup>th</sup> Quarter	Jan-Mar 2012		
15 <sup>th</sup> Quarter	Apr-Jun 2012		
16 <sup>th</sup> Quarter	Jul-Sep 2012		
17 <sup>th</sup> Quarter	Oct-Dec 2012	48-Hour Static Acute tests using <i>Pimephales promelas</i> and <i>Ceriodaphnia dubia</i> .	
18 <sup>th</sup> Quarter	Jan-Mar 2013		
19 <sup>th</sup> Quarter	Apr-Jun 2013		
20 <sup>th</sup> Quarter	Jul-Aug 2013		

F. COMPLIANCE SCHEDULE ACUTE TOXICITY LIMITS

The permittee shall achieve compliance with the final limits for Dissolved Oxygen and Acute Whole Effluent Toxicity as specified in this permit in accordance with the following schedules:

SCHEDULE OF COMPLIANCE FOR DISSOLVED OXYGEN	
1. Prepare progress reports.	Annually beginning 1 year from the permit effective date.
2. Achieve compliance with the final effluent limitation for Dissolved Oxygen.	No later than 2 years from the permit effective date.

SCHEDULE OF COMPLIANCE FOR ACUTE WHOLE EFFLUENT TOXICITY	
1. Prepare progress reports.	Annually beginning 1 year from the permit effective date.
2. Achieve compliance with the final effluent limitation for Final Acute Whole Effluent Toxicity.	No later than 4 years from the permit effective date.

No later than 14 calendar days following the dates identified in the above schedules of compliance, the permittee shall submit to the Piedmont Regional Office, either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.